

Claims:

1. A method of inducing an immune response by the delivering of an effective amount of lipid-tailed protein to a mucosal membrane of a subject.

5 2. The method of Claim 1, wherein the lipoprotein is applied to the mucosal membrane without adjuvant.

3. The method of Claim 1, wherein the lipoprotein is applied to the mucosal membrane without using a needle.

4. The method of Claim 1, wherein the lipoprotein is applied intranasally, sublingually, by eye-drops, or suppositories.

10 5. The method of Claim 1, wherein the lipoprotein has at least one lipid coupled to a functional group of the said protein.

6. The method of Claim 1, wherein the lipoprotein has at least one lipid coupled to a α -NH₂ and/or ϵ -NH₂ functional group of the peptide.

15 7. The method of Claim 1, wherein application of the lipoprotein induces a B cell response.

8. The method of Claim 1, wherein application of the lipoprotein induces a T cell response.

9. The method of Claim 1, wherein application of the lipoprotein induces a systemic B and/or T cell response.

20 10. A composition consisting in at least one lipoprotein inducing a mucosal immune response *in vivo* in absence of toxic adjuvant.

11. A composition according to Claim 10, wherein the adjuvant is non-toxic for the mucosal membranes.

12. A lipopeptide, wherein the lipopeptide is tailed with a lipid component.

13. The lipopeptide of Claim 11, wherein the lipid component is a palmitoyl residue having 16 carbon atoms.

14. The lipopeptide of Claim 12, wherein the lipopeptide is:

LSA3-NRII Ac-LEESQVNDDIFNSLVKSVQQEQQHNVK(PAM)NH₂ OR
LSA1-J Ac-ERRAKEKLQEQQSDLEQRKADTKKK(PAM).

15. The method of Claim 9, wherein the lipopeptide is:

LSA3-NRII Ac-LEESQVNDDIFNSLVKSVQQEQQHNVK(PAM)NH₂ OR
LSA1-J Ac-ERRAKEKLQEQQSDLEQRKADTKKK(PAM)NH₂.

16. A composition consisting in at least one lipopeptide inducing a mucosal immune response *in vivo* in the absence of toxic adjuvant, wherein the lipopeptide is at least one lipopeptide according to Claim 13.

17. A vaccine composition for mucosal administration containing at least one lipopeptide inducing an B and/or T cell response *in vivo* in absence of adjuvant.

18. A vaccine composition containing a lipopeptide according to Claim 13 in the absence of adjuvant.

19. An immunogenic composition containing a lipopeptide according to Claim 13.

20. A method of stimulating T-Lymphocyte responses *in vitro* after immunization via mucosal administration comprising the following steps:

a) immunizing BALB/C mice by mucosal administration with a peptide tetanic toxin-pol HIV palmitic antigen,

- b) collecting of ganglia sub-mandibulaires at day 15, and
- c) visualizing T cell responses by labeling target cells with CFSE.

21. The method of Claim 1, further comprising administering a composition containing a lipid-tailed polypeptide or peptide, said lipid-tailed peptide having at least a lipid residue bound to an epitope T amino acid sequence and optionally at least one epitope B amino acid sequence.

22. The method of Claim 21, wherein the lipopeptide is an antigenic lipopeptide of sequence:

H-K(PAM)TT-pol 476-484

Nh2-K(NεPam)GRQYIKKANSKFIGITERGRILKEP-COOH.

23. The method of Claim 1, wherein the lipopeptide is a lipid-tailed epitope T.

24. The method of Claim 23, wherein the lipopeptide is a lipid-tailed epitope T covalently linked to an epitope B peptide.

25. A composition comprising lipid-tailed polypeptide or peptide, said lipid-tailed peptide having at least a lipid residue bound to an epitope T amino acid sequence and optionally at least one epitope B amino acid sequence.